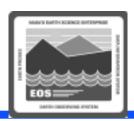


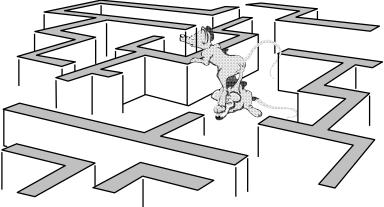
INGEST

ECS Release 6A Training

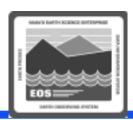
Overview of Lesson



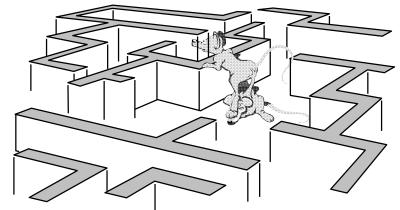
- Introduction
- Ingest Topics
 - Ingest Concepts
 - Launching the ECS Ingest and Storage Management Control GUIs
 - Monitoring Ingest Status
 - Cleaning Directories
 - Performing Hard Media Ingest



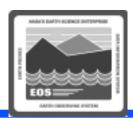
Overview of Lesson (Cont.)



- Ingest Topics (Cont.)
 - Scanning Documents
 - Modifying Ingest Tunable Parameters and Performing File Transfers
 - Troubleshooting Ingest Problems
- Practical Exercise



Objectives



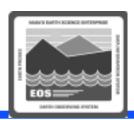
OVERALL:

Develop proficiency in the procedures that apply to ingest operations

• SPECIFIC:

- Describe the ingest function, including a general statement of the ingest responsibility in ECS and an overview of the ingest process
- Perform the steps involved in...
 - » launching the ECS Ingest GUI
 - » launching the Storage Management Control GUI
 - » monitoring and controlling ingest requests
 - » viewing the Ingest History Log
 - » verifying the archiving of ingested data
 - » cleaning the polling directories

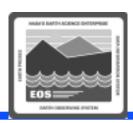
Objectives (Cont.)



• SPECIFIC (Cont.):

- Perform the steps involved in...
 - » performing hard media ingest
 - » scanning documents and gaining access to scanned documents
 - » modifying external data provider information
 - » modifying Ingest Subsystem parameters using the Ingest GUI Operator Tools: Modify System Parameters screen
 - » transferring files using the Ingest GUI File Transfer screen
 - » modifying Ingest Subsystem parameters using interactive structured query language (isql)
 - » troubleshooting and recovering from ingest problems

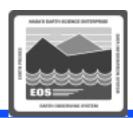
Objectives (Cont.)



• STANDARDS:

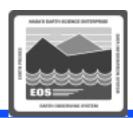
- Lesson content (procedures in the lesson)
- Mission Operation Procedures for the ECS Project (611-CD-600-001)

Ingest Concepts



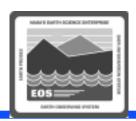
ECS Context

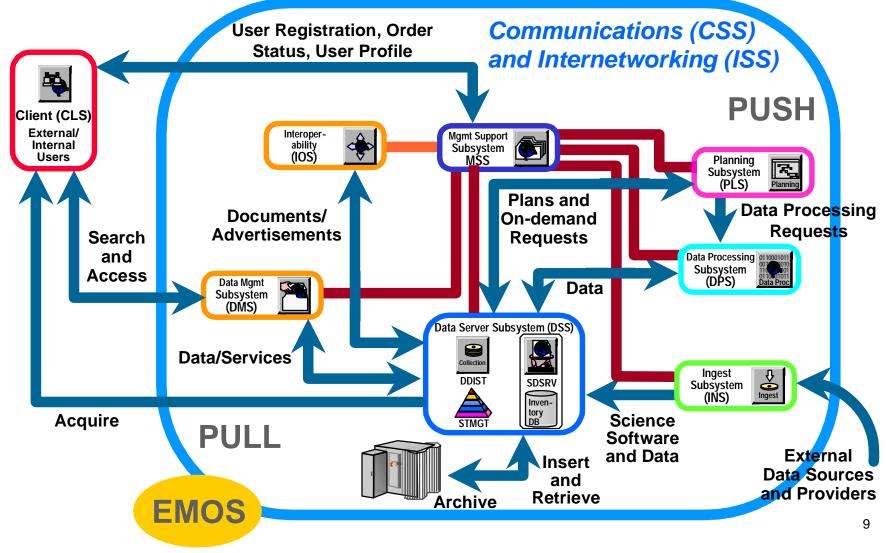
- Ingest for ECS is accomplished at the Distributed Active Archive Centers (DAACs)
- People involved in Ingest activities are Ingest/Distribution Technicians
- Ingest Subsystem (INS) is point of entry to ECS for data from external data providers
- Data Server Subsystem (DSS) manages access to the data repositories, where ingested data are stored

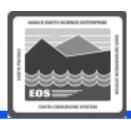


- ECS Context (Cont.)
 - Ingest transfers data into ECS, performs preprocessing, and forwards the data to DSS for archiving
 - STMGT CSCI in DSS stores, manages, and retrieves data files
 - » Provides interfaces and peripheral devices (e.g., tape drives)
 - » Provides for the copying of files into the archive for permanent storage
 - SDSRV CSCI in DSS manages and provides user access to collections of Earth Science data
 - Checks/verifies metadata
 - Issues requests to STMGT to perform storage services, such as insertion of data into the archive

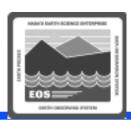
ECS Context Diagram







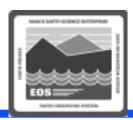
- Ingest Subsystem: INGST CSCI
 - Automated Network Ingest Interface (EcInAuto)
 - Automated Polling Ingest Client Interface (EcInPolling)
 - Ingest Request Manager (EcInReqMgr)
 - Ingest Granule Server (EcInGran)
 - Ingest E-Mail Parser (EcInEmailGWServer)
 - ECS Ingest GUI (EcInGUI)
 - Sybase Adaptive Server Enterprise (ASE) Server



- INGST (Cont.)
 - Start-up script used by Ingest personnel (/usr/ecs/MODE/CUSTOM/utilities directory on the Operations Workstation)
 - » EcInGUIStart

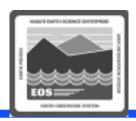


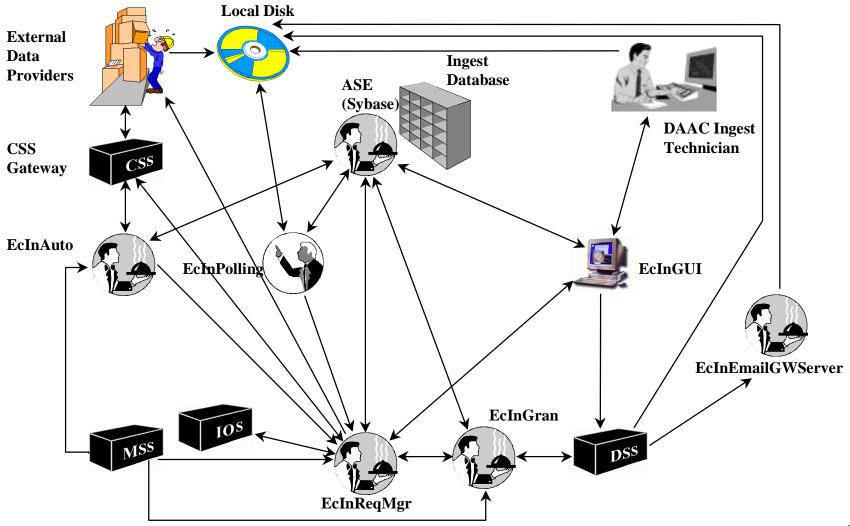
- INGST (Cont.)
 - Start-up scripts called by other applications (not normally invoked directly by Ingest personnel)
 - » EcInAutoStart
 - » EcInGranStart
 - » EclnIngestAppStart
 - » EcInInitPasswdStart
 - » EcInPollingStart
 - » EcInReqMgrStart
 - » EcInStart
 - » EcInEmailGWServerStart

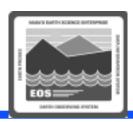


- INGST (Cont.)
 - Other scripts
 - » EcInEDOSCleanupMain
 - » EcInPollClean
 - » EcInCopyAM1ANC
 - » EcInDbBuild
 - » EcInDbDrop
 - » EcInDbDump
 - » EclnDbDumpTrans
 - » EcInDbLoad
 - » EcInDbLoadTrans
 - » EcInDbPatch
 - » EcInGWClientDrvStart

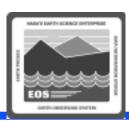
Ingest Subsystem Architecture and Interfaces



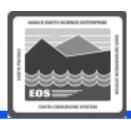




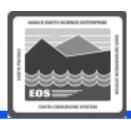
- Data Server Subsystem: Storage Management (STMGT) CSCI
 - Archive Server (EcDsStArchiveServer)
 - Staging Servers
 - » Cache Manager Server (EcDsStCacheManagerServer)
 - » Pull Monitor (EcDsStPullMonitorServer) [symbolic link to the Cache Manager Server]
 - » Staging Disk Server (EcDsStStagingDiskServer)
 - Resource Managers
 - » 8mm Server (EcDsSt8MMServer)
 - » D3 Server (EcDsStD3Server)
 - » DLT Server (EcDsStDLTServer)
 - » CD-ROM Server (EcDsStCDROMServer)
 - » FTP Server (EcDsStFtpServer)



- STMGT (Cont.)
 - Storage Management Request Manager (EcDsStRequestManagerServer)
 - Storage Management Control GUI (EcDsStmgtGui)
 - Sybase ASE Server
 - Archival Management and Storage System (AMASS)

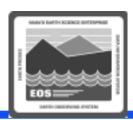


- STMGT (Cont.)
 - Start-up script used by Ingest personnel (/usr/ecs/MODE/CUSTOM/utilities directory on the Distribution Server host)
 - » EcDsStmgtGuiStart



STMGT (Cont.)

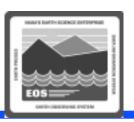
- Start-up scripts called by other applications (not normally invoked directly by Ingest personnel)
 - » EcDsStFtpServerStart
 - » EcDsStStagingDiskServerStart
 - » EcDsStStart
 - » EcDsStStorageMgmtAppStart
 - » EcEcsAppStart
 - » EcDsStArchiveServerStart
 - » EcDsStCacheManagerServerStart
 - » EcDsStRequestManagerServerStart
 - » EcDsSt8MMServerStart
 - » EcDsStD3ServerStart
 - » EcDsStDLTServerStart
 - » EcDsStCDROMServerStart

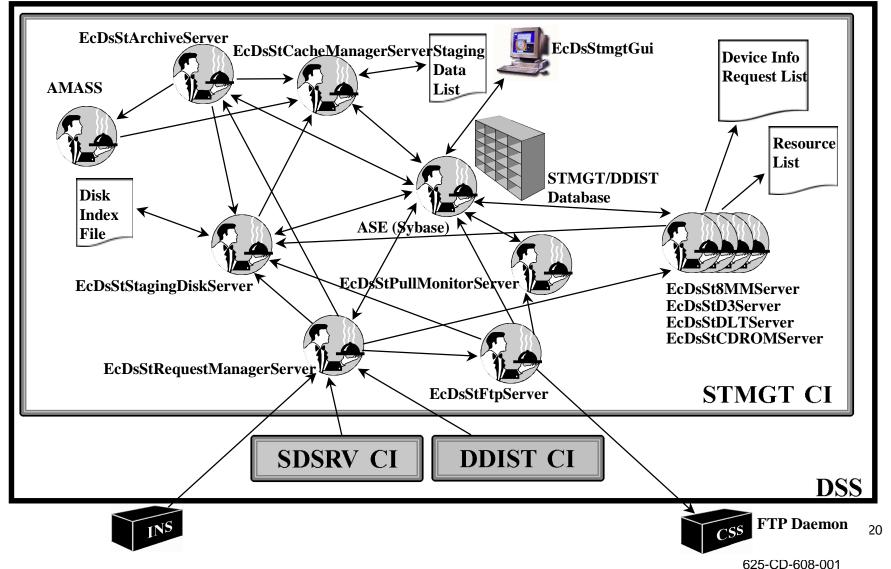


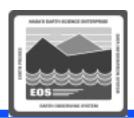
• STMGT (Cont.)

- Other scripts
 - » EcDsCheckArchive
 - » EcDsStConfigVolGrps
 - » EcDsStDbBuild
 - » EcDsStDbDrop
 - » EcDsStDbDump
 - » EcDsStDbDumpTrans
 - » EcDsStDbLoad
 - » EcDsStDbLoadTrans
 - » EcDsStDbPatch
 - » EcDsStFilesPerTapeUtility
 - » EcDsStVolGrpCreateMain.pl

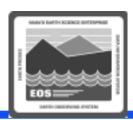
Data Server Subsystem: STMGT Architecture and Interfaces



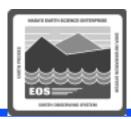




- Data Server Subsystem: Science Data Server (SDSRV) CSCI
 - Science Data Server (EcDsScienceDataServer)
 - Hierarchical Data Format (HDF) EOS Server (EcDsHdfEosServer)
 - Granule Deletion Administration Tool (EcDsGranuleDelete)
 - Science Data Server GUI (EcDsSdSrvGui)
 - Autometric Spatial Query Server (SQS)
 - Sybase ASE Server



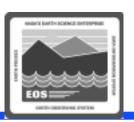
- SDSRV (Cont.)
 - Start-up script (/usr/ecs/MODE/CUSTOM/utilities directory on the SDSRV Server host and the Operations Workstation)
 - » EcDsSdSrvGuiStart

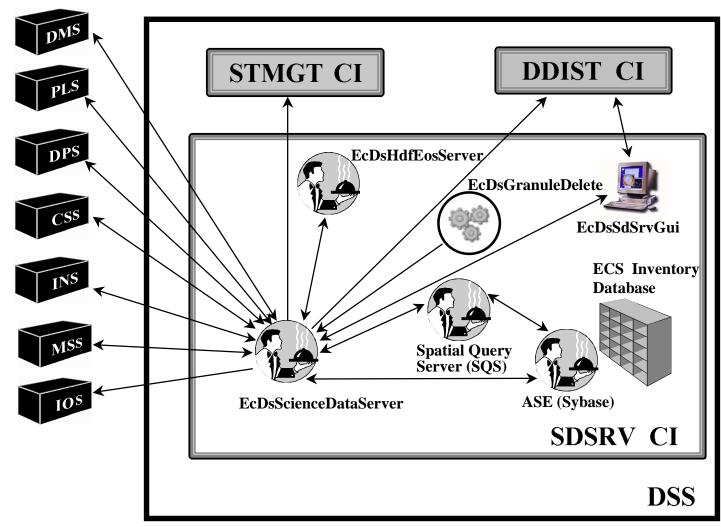


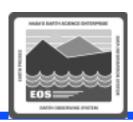
• SDSRV (Cont.)

- Other scripts
 - » EcTsDsClientDriverStart
 - » EcDsSrConvertEvt
 - » EcDsSrDbBuild
 - » EcDsSrDbDrop
 - » EcDsSrDbDump
 - » EcDsSrDbLoad
 - » EcDsSrDbMigrate
 - » EcDsSrDbPatch
 - » EcDsSrDbValids

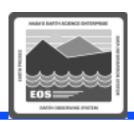
Data Server Subsystem: SDSRV Architecture and Interfaces



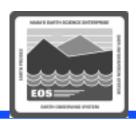




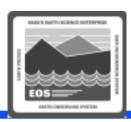
- System Changes for Release 6A
 - Increased data processing load at certain DAACs in support of...
 - » Reprocessing of Terra satellite data in addition to routine processing of Terra data (essentially doubles the previous Terra processing load)
 - » Processing of data from the Aqua satellite (Release 5B supported Aqua Science Software Integration and Test (SSI&T) only)
 - Greater volume of data to be ingested
 - » Supports more interfaces and a larger number of Earth Science Data Types (ESDTs)
 - Higher volume of data products to be distributed



- System Changes for Release 6A (Cont.)
 - ECS hardware configuration upgrades for Release 6A
 - » Replacement of the Fiber Distributed Data Interface (FDDI) networks with gigabit Ethernet networks at two DAACs [i.e., Goddard Spaceflight Center (GSFC) and Earth Resources Observation Systems Data Center (EDC)]
 - » The gigabit Ethernet networks are expected to handle the increased throughputs of Terra reprocessing along with routine processing for Aqua
 - » Addition of an SGI Origin processor to the Science Processing configuration at GSFC to handle the additional Aqua MODIS processing load
 - » Replacement of SGI Challenge archive machines with SGI Origin machines

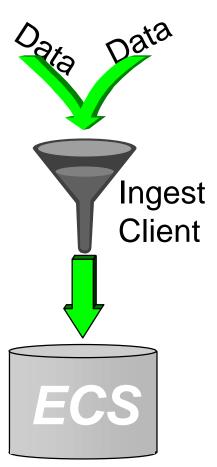


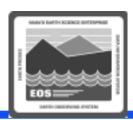
- System Changes for Release 6A (Cont.)
 - ECS hardware configuration upgrades for Release 6A (Cont.)
 - » Upgrading of Science Data Server configurations (both the SDSRV and Sybase/SQS hosts) at EDC and GSFC so that the request load is shared between two separate host configurations
 - » Additional staging disks in the Release 6A configuration to handle increased Ingest and Data Distribution loads



Ingest Process

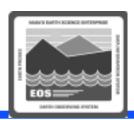
- Hardware and software for Ingest
 - » Receipt and storage of data from multiple sources into ECS
 - » Sets stage for archiving and/or processing of the data
- Provides tools
 - » Selected configuration: Ingest client
 - » Single virtual interface point for receipt of all external data to be archived
 - » Performs ingest data preprocessing, metadata extraction, and metadata validation



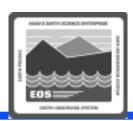


Ingest Activities

- Ingest function brings data into ECS from external data providers
- Representative data providers
 - » Landsat Processing System (LPS)
 - » Landsat 7 Image Assessment System (IAS)
 - » Landsat 7 International Ground Stations (IGSs)
 - » Ground Data System (GDS) for the ASTER instrument on the Terra (AM- 1) satellite
 - » EOS Data and Operations System (EDOS)
 - » Science Computing Facilities (SCFs)



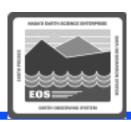
- Ingest Activities (Cont.):
 - Representative data providers (Cont.):
 - » Science Investigator-Led Processing Systems (SIPS); for example:
 - » Advanced Cavity Radiometer Irradiance Monitor (ACRIM) III
 - » Advanced Microwave Scanning Radiometer (AMSR- E)
 - » Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Observation Schedule File (OSF)
 - » ASTER Digital Elevation Model (DEM)
 - » Measurements of Pollution in the Troposphere (MOPITT)
 - » MODIS Adaptive Processing System (MODAPS)
 - » Stratospheric Aerosol and Gas Experiment (SAGE) III



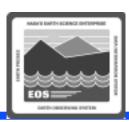
- Ingest Activities (Cont.)
 - Representative data providers (Cont.)
 - » National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite, Data, and Information Service (NESDIS)
 - » NOAA National Weather Service (NWS) National Centers for Environmental Prediction (NCEP)
 - » Flight Dynamics System (FDS)



- Ingest Activities (Cont.)
 - Ingest activities include...
 - » Data transfer and transmission checking
 - » Data preprocessing [including data conversions (if required), metadata extraction (as required), metadata validation (as required)]
 - » Transferring ingested data to the Data Server Subsystem for long-term storage in the archive

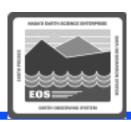


- Ingest Activities (Cont.)
 - Ingest provides a single point for monitoring and control of data ingested from external data providers
 - Nominal ingest process is fully automated with minimal operator intervention

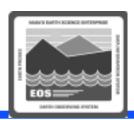


Ingest Categories

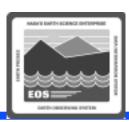
- Automated network ingest
 - » Used at Earth Resources Observation Systems (EROS) Data Center (EDC) only
 - » Data provider is the Landsat Processing System (LPS)
 - » Data Availability Notice (DAN) from LPS initiates ingest
 - » ECS "gets" data from an LPS processor staging area via file transfer protocol (ftp) within a specified time window



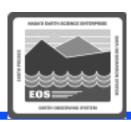
- Ingest Categories (Cont.)
 - Automated polling ingest with delivery record
 - » ECS periodically checks a network location for a delivery record file, which indicates the availability of data for ingest
 - » ECS "gets" data from the applicable directory on an ECS staging server, where the data provider will have put the data
 - » Data providers include EDOS, IAS, SCFs, SIPS, and NOAA NCEP



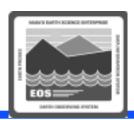
- Ingest Categories (Cont.)
 - Automated polling ingest without delivery record
 - » ECS periodically checks a network location for available data
 - » All data at the location are treated as one specific data type, one file per granule
 - » If the particular polling client is configured to perform file comparisons, each file is compared with the last version that was ingested
 - » If the new file is different from the previous one, it is ingested as a new file
 - » If it is identical to the previous one, it is not ingested
 - » ECS "gets" data from the network location
 - » Data providers include FDS and NOAA NESDIS CEMSCS



- Ingest Categories (Cont.)
 - Hard media ingest by the Ingest/Distribution
 Technician
 - » Ingest from hard media (e.g., tape cartridges); from authorized institutions or other providers, or as backup
 - » Requires file/record information equivalent to DAN/PDR
 - » Data providers include EDOS, SCFs, NOAA NCEP, NOAA NESDIS NCDC, IGSs, and the ASTER GDS

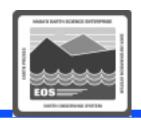


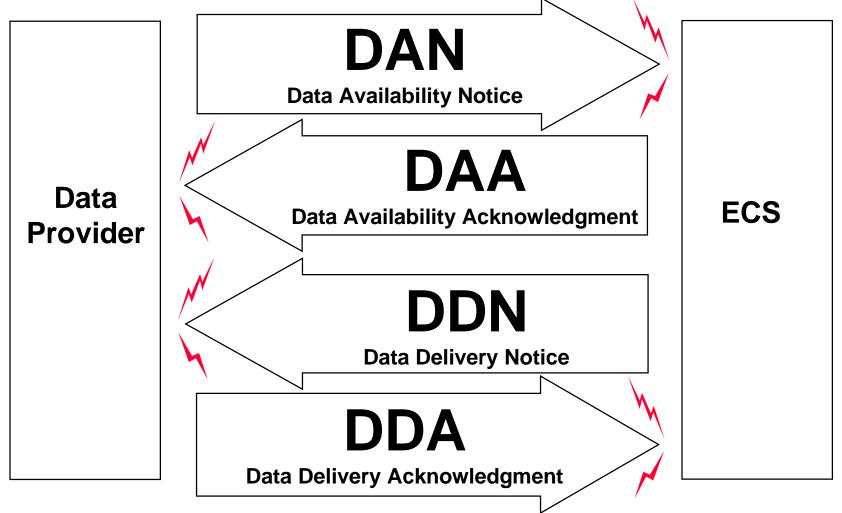
- Ingest Categories (Cont.)
 - Cross-Mode Ingest Interface
 - » Ingest from other DAACs or other modes at the same DAAC
 - » Ingest receives a distribution notice (via e-mail) of data files transferred via the FTP service
 - » Distribution notification is used to create a Delivery Record File that is put in an agreed-upon network location
 - » Polling-with-delivery-record process checks the location for the delivery record files

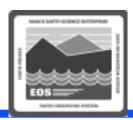


- Ingest Automated Network Ingest Messages
 - Data Availability Notice (DAN)
 - » Notice sent to Ingest by external data provider specifying data which are available for ingest
 - Data Availability Acknowledgment (DAA)
 - » Message sent from Ingest acknowledging the receipt and status of the DAN (including any DAN errors)
 - Data Delivery Notice (DDN)
 - » Notice sent from Ingest to the data provider indicating status of the transfer (including problems) and archiving of the data
 - Data Delivery Acknowledgment (DDA)
 - » Message sent to Ingest acknowledging the DDN and terminating the connection

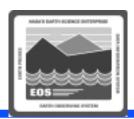
Ingest Automated Network Ingest Messages





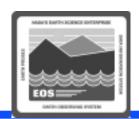


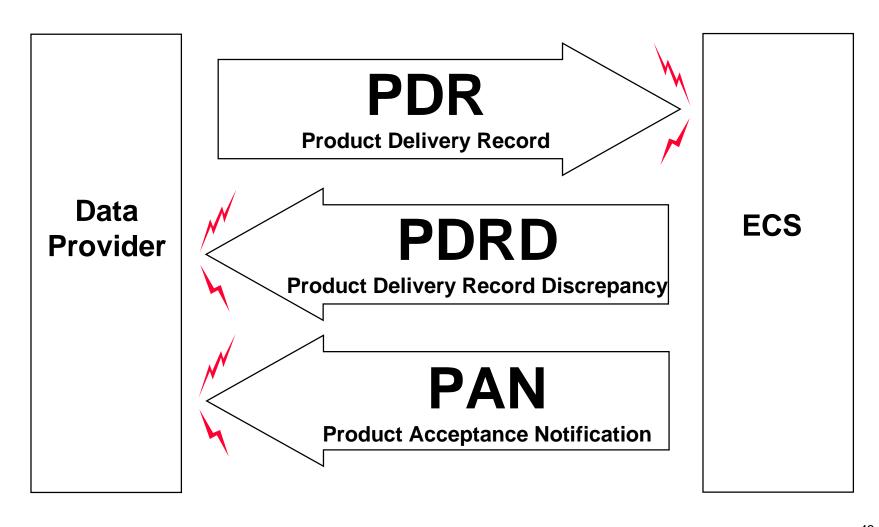
- Ingest Polling Messages (polling ingest with delivery record only)
 - Product Delivery Record (PDR)
 - » Notice that is sent to Ingest by an external data provider specifying data that are available for ingest
 - » Alternatives include the EDOS Production Data Set (PDS) Delivery Record (PDR) and Expedited Data Set (EDS) Delivery Record (EDR)
 - » EDOS provides a signal file to indicate that EDOS has completed transfer of a data file so the data can be ingested; the signal file is identified by an ".XFR" extension to the data file name

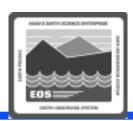


- Ingest Polling Messages (Cont.)
 - Product Delivery Record Discrepancy (PDRD)
 - » Notice sent from Ingest to the data provider via ftp or e-mail indicating that the PDR cannot be successfully validated
 - » There is no PDRD in EDOS polling
 - Product Acceptance Notification (PAN)
 - » Message sent via ftp or e-mail to the data provider from Ingest announcing the completion of data transfer and archiving and identifying any problems with any of the files specified in the PDR
 - » Alternatives include the EDOS PDS Acceptance Notification (PAN) and EDS Acceptance Notification (EAN)

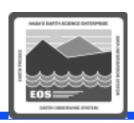
Ingest Polling Messages



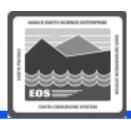




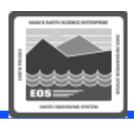
- Ingest Polling Messages (Cont.)
 - No messages are passed in polling ingest without delivery record



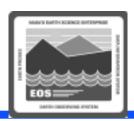
- Physical Media Messages (exact nomenclature of messages depends on the particular data provider's agreement with ECS)
 - Physical Media Product Delivery Record (PMPDR)
 - »•Notice provided on the physical medium (i.e., 8mm tape) and hard copy (if needed) to identify the data on the tape that are available for ingest
 - Physical Media PDR Discrepancy (PMPDRD)
 - Notice sent from Ingest to the data provider via email only in the event of an error in the PMPDR
 - Physical Media Production Acceptance Notification (PMPAN)
 - Message sent via e-mail to the data provider from Ingest announcing the completion of data transfer and archiving and identifying any problems



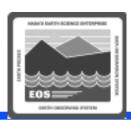
- Data Transfer and Staging
 - Data transfer from external data providers uses one of three methods:
 - » File transfer protocol (ftp) "get" by ECS
 - » Ftp "put" by external source
 - » Hard media transfer



- Data are staged to a working storage area
 - In general level 0 (L0) data received from external data providers and other selected data (EDOS ancillary data) is staged to the INS working storage area
 - »•Metadata is extracted and the format is validated in the working storage area then the L0 data is transferred to an archive data repository in the DSS for long-term storage
 - Non-L0 data (such as non-EDOS ancillary data and L1A - L4 data from external facilities) is staged directly to the working storage area in the DSS
 - »•Extraction of metadata is performed on the data by the INS software then the DSS (SDSRV CSCI) is called by the INS software residing in the INS processor hardware to perform metadata validation and the non-L0 data is transferred to a DSS archive data repository for long-term storage

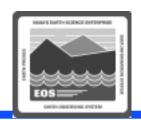


- Data are staged to a working storage area (Cont.)
 - Many types of ingest use "icl" (Ingest Client) staging areas
 - Media ingest (e.g., from D3 tape) typically involves staging in a "dip" (Distribution and Ingest Peripherals) area
 - Polling ingest for data from EDOS usually entails the use of the polling directory as the staging area
 - Some data are staged directly to working storage ("wks") in the Data Server Subsystem



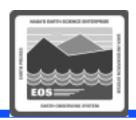
- •• Ingest Scenarios Scenarios are presented for the following types of Ingest:
 - Automated network ingest
 - Polling ingest with delivery record
 - Polling ingest without delivery record
 - Physical media ingest
 - Cross-DAAC ingest

ECS Ingest GUI Intro Screen

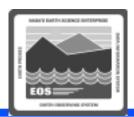




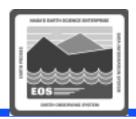
Launching the ECS Ingest and Storage Management Control GUIs



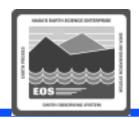
- Software applications associated with Ingest:
 - Automated Network Ingest Interface (EcInAuto)
 - Automated Polling Ingest (EcInPolling)
 - Request Manager (EcInReqMgr)
 - Granule Server (EcInGran)
 - ECS Ingest GUI (EcInGUI)
 - Ingest E-Mail Parser (EcInEmailGWServer)
 - Sybase ASE Server
- Normally multiple instances of some Ingest servers
- Ingest depends on other servers, especially Storage Management and Science Data Server



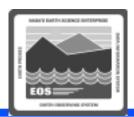
- Use UNIX command line to gain access to graphical user interfaces (GUIs)
- Procedure (Launching the ECS Ingest GUI)
 - Access the command shell
 - Log in to the Operations Workstation using secure shell
 - Change directory to the directory containing the Ingest GUI startup script
 - Type command to start ECS Ingest GUI



- Software applications associated with Storage Management as it relates to Ingest:
 - Storage Management Control GUI (EcDsStmgtGui)
 - Archive Server (EcDsStArchiveServer)
 - Cache Manager Server (EcDsStCacheManagerServer)
 - Pull Monitor (EcDsStPullMonitorServer)
 - Staging Disk Server (EcDsStStagingDiskServer)
 - D3 Server (EcDsStD3Server)
 - FTP Server (EcDsStFtpServer)
 - Storage Management Request Manager (EcDsStRequestManagerServer)

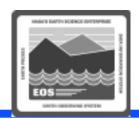


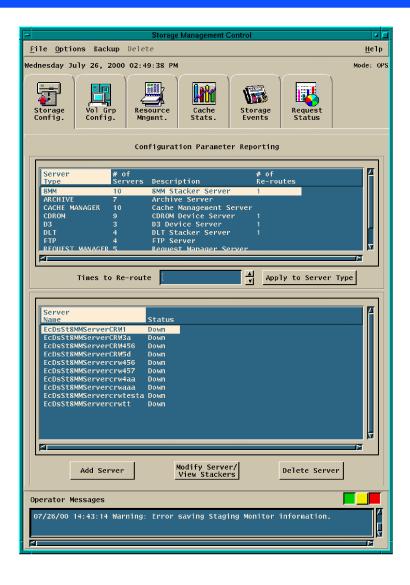
- Software applications associated with Storage Management (Cont.):
 - Sybase ASE Server
 - Archival Management and Storage System (AMASS)
- Storage Management Control GUI can be used in Ingest physical media operations for taking media drives off line and putting the drives back on line
 - Generally preferable to take a stacker off line prior to loading a tape containing data to be ingested



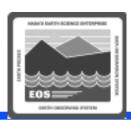
- Procedure (Launching the Storage Management Control GUI)
 - Access the command shell
 - Log in to the Distribution Server host using secure shell
 - Change directory to the directory containing the Storage Management Control GUI startup script
 - Type command to start the Storage Management Control GUI

Storage Management Control GUI: Storage Config. Tab





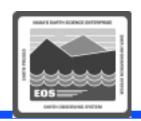
Monitoring Ingest Status

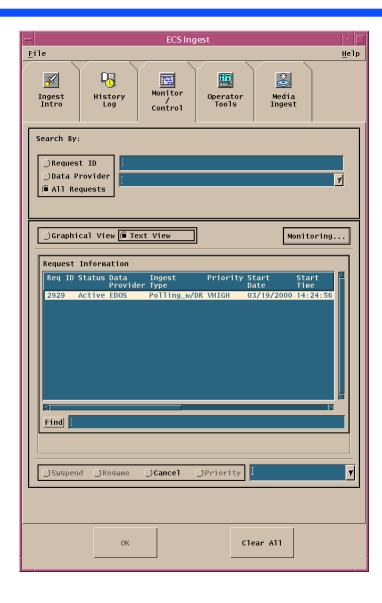


Assumptions:

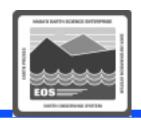
- Ingest processes have been started
- System is operating normally
- Data are ready for ingest
- Several DAN/PDR files have been received and logged by the system; the specific ingest processes have been assigned request IDs
- Invoke monitoring display with "Monitoring/Controlling Ingest Requests" procedure

Monitor/Control Tab: Text View



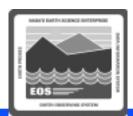


Monitor/Control Tab: Graphical View



− ECS Ingest	•
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Ingest Intro Log Control Contr	
Search By: Request ID Data Provider All Requests	7
Graphical View	ing
Req ID Processing Star1 Percent Date/Time Complete	
2929 03/19/2000 14:24:56	
Suspend Resume Cancel Priority	7
OK Clear All	1

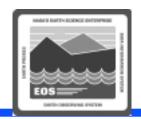
Monitoring/Controlling Ingest Requests



Procedure

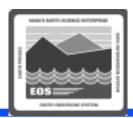
- Select the Ingest GUI Monitor/Control tab
- Select the appropriate set of ingest requests
- Select the type of view (i.e., graphical or text)
- Observe ingest request processing
- Resume/cancel requests as necessary

ECS Ingest GUI Monitor/Control Tab



ECS Ingest	
<u>F</u> ile	<u>H</u> elp
Ingest Intro Log Control Operator Tools Ingest	
Search By: Request ID Data Provider All Requests	M
Reg ID Processing Stari Percent Date/Time Complete	
Suspend Resume Cancel Priority	Y
OK Clear All	

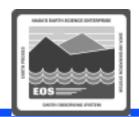
Monitoring Ingest Requests: Resuming Ingest Requests

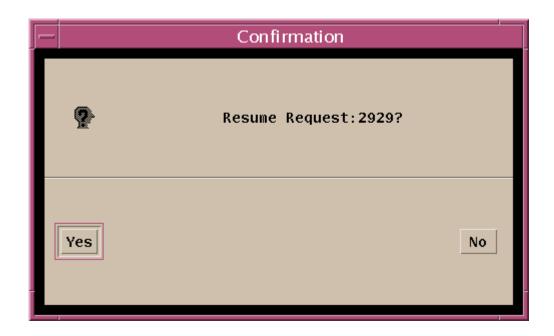


Procedure

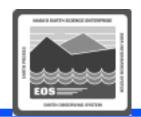
- Click on the row corresponding to the request or granule to be resumed on the Monitor/Control tab (Text View)
- Click on the Resume button
- Click on the OK button at the bottom of the GUI
- Click on the Yes button in the Resume Request
 Confirmation Dialogue Box to confirm resuming the request/granule
- Click on the OK button in the Request Control Status Information Dialogue Box

Resume Request Confirmation Dialogue Box



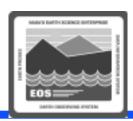


Request Control Status Information Dialogue Box





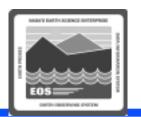
Monitoring Ingest Requests: Canceling Ingest Requests

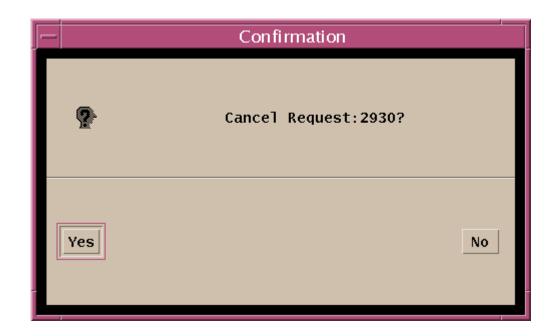


Procedure

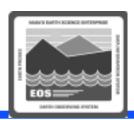
- Click on the row corresponding to the request or granule to be canceled on the Monitor/Control tab (Text View)
- Click on the Cancel button
- Click on the OK button at the bottom of the GUI
- Click on the Yes button in the Cancel Request
 Confirmation Dialogue Box to confirm canceling the request/granule
- Click on the OK button in the Request Control Status Information Dialogue Box

Cancel Request Confirmation Dialogue Box



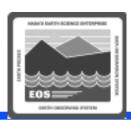


Ingest History Log



- Upon Ingest completion...
 - Notice automatically sent to data provider indicating the status of the ingested data
 - Data provider sends an acknowledgment of notice
 - Receipt of the acknowledgment logged by ECS
 - Request ID removed from the list of active requests
 - History log receives statistics on the completed transaction
- History Log search criteria
 - time period
 - data provider ID
 - data type
 - final request status

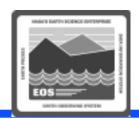
Ingest History Log (Cont.)



Ingest History Log formats

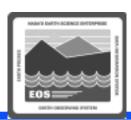
- Detailed Report detailed information about each completed ingest request
- Summary Report summary of ingest processing statistics, including the average and maximum time taken to perform each step in the ingest process
 - » Request-level Summary Report ingest request processing statistics
 - » Granule-level Summary Report ingest granule processing statistics organized by data provider and Earth Science Data Type (ESDT)

Ingest History Log Screen



-	ECS Ing	jest		
<u>F</u> ile				<u>H</u> elp
Ingest Intro	Monitor / Control	Operator Tools	Media Ingest	
	Search (Criteria		
Start Date/Time	3 I month / day	2000 [ır : min : sec	
Stop Date/Time	3 19	[2000) } }	
Data Provider	¥			Y
Data Type	I			y
Final Request Status	I			Y
ODetailed Report O	Summary Report	t		Display
History Log				
Find I				
	Clear	· A11		

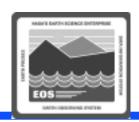
Viewing Ingest History Log



Procedure

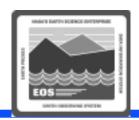
- Select the Ingest GUI History Log tab
- Select the search criteria
 - » time period
 - » data provider
 - » data type
 - » final request status
- Select Detailed Report or Summary Report
- If Summary Report, select either Request Level report or Granule Level report
- Click on the Display button

History Log Detailed Report



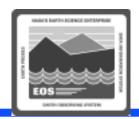
_		ECS In	gest		-		
<u>F</u> ile					<u>H</u> elp		
Ingest Intro	History Log	Monitor / Control	Operator Tools	Media Ingest			
	Search Criteria						
Start Da	te/Time	3 1 1 month / day	2000 [15	12 11 sec			
Stop Dat	e/Time	<u>[3</u> <u>[19</u>	Ĭ2000 Ĭ15	<u>[2</u>			
Data Pro	vider	I			Y		
Data Typ	e	I			Y		
Final Re	quest Statı	ıs			Y		
)Summary Repor	t		Display		
Req ID	Data Provider	Status	Ingest Type	Start Date	Sta Tim		
2765 2766	lps004 DDIST	Successful Successful	Auto	03/01/2000 03/01/2000			
2767	1ps004	Successful	Polling_w/DR Auto	03/01/2000	15:		
2768 2769	DDIST DDIST	Successful Successful	Polling_w/DR Polling_w/DR	03/01/2000			
2770 2771	DDIST	Successful Successful	Polling_w/DR Polling_w/DR	03/01/200	15:		
	1/1/1.11			0.17 0 17 2 0 0			
Find							
		Clea	r All				

History Log Summary Report - Request Level



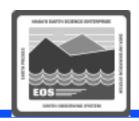
ECS Ingest	
<u>F</u> ile <u>H</u> elp	
Ingest Intro Log Control Operator Tools Ingest	
Search Criteria	
Start Date/Time 3 1 2000 15 3 12 month / day / year hour : min : sec	
Stop Date/Time 3 19 2000 15 3 12	
Data Provider	
Data Type	
Final Request Status	
©Request level Granule level Display	
Processing Statistics	
Data Provider Itl Itl Gran Gran File File Size Size Tra △ Reqs Errs Avg Max Avg Max (MB) (MB) Til Avg Max Av	
ACRIM 1 0 1 1 2 2 0.004 0.004 0 ASTER 1 1 1 1 1 1 124.826 124.826 1	
ASTERDEM 6 1 2 3 4 6 29.202 43.880 0 ASTERGDS 5 4 4 17 8 34 461.382 1932.431 0	
ASTER_OSF 1 0 1 1 2 2 0.004 0.004 0 DAO 6 3 1 1 1 3 69.039 375.745 0	
DDIST 21 6 1 1 2 2 17.112 63.803 0	
Find 1	
Go Back	
Clear All	

History Log Summary Report - Granule Level



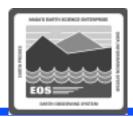
_	ECS Inc	jest		- I				
<u>F</u> ile				<u>H</u> elp				
Ingest Histor Log	monitor / Control	Operator Tools	Media Ingest					
	Search Criteria							
Start Date/Time	3 1 month / day	2000 15 / year hour	[12 [8 : min : sec					
Stop Date/Time	<u>[</u> 3	[2000] [15	<u>1</u> 2 <u>8</u>					
Data Provider	Ĭ			y				
Data Type Final Request St	I Latus I			Y				
Request level Granule level Display								
Processing Statis Data Provider Da Ty		otal File File rrors Avg Max	Size Size (MB) (MB) Avg Max					
ASTER AS ASTERDEM AS ASTERGDS AS ASTERGDS AS ASTER_OSF AS	R3L2OM 1 1 ST_L1B 1 1 ST14DEM 12 1: ST_L1A 17 1: ST_L1B 3 3 ST_POSF 1 1 E1APCHM 1 1	1 1 2 2 2 7 2 2	0.004 0.004 124.826 124.829 14.601 14.628 113.672 113.672 124.826 124.829 0.004 0.004 8.971 8.971					
Find								
	Go E	Back						
	Clear	· A11						

Verifying the Archiving of Ingested Data



- Check the appropriate directory on the File and Storage Management System (FSMS) host (e.g., g0drg01)
 - Directories are identified by the type of data (e.g., aster, ceres, I7, modis) in them and correspond directly to tape volumes in the system
 - Just a matter of checking the relevant FSMS directory to determine whether the applicable files/granules have been transferred
 - Procedure does not involve the use of any archive software
 - Before starting it is essential to know what data to look for
 - » End Date(s)/Time(s) and Data Volume(s) for ingest requests shown on the ECS Ingest GUI

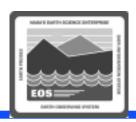
Verifying the Archiving of Ingested Data (Cont.)



Procedure

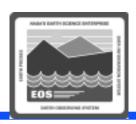
- Log in to the FSMS host
- Change directory to the directory containing the archive data
- Perform a long listing of directory contents for a particular date (e.g., Is -la | grep 'Mar 17')
 - » It is important to limit the listing (e.g., to a particular day)
 - » If there are tens of thousands of granules in the directory, just doing a listing of the entire directory would cause serious performance problems
- Compare End Date(s)/Time(s) and Data Volume(s) for the applicable ingest request(s) shown on the Ingest GUI with the dates/times and file sizes listed for the files in the directory

Cleaning Polling Directories



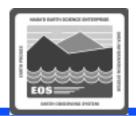
- Polling directories should be cleaned up after successful archiving to avoid running out of disk space
- Automatic clean-up should be available
- However, it may still be useful to know how to use the clean-up scripts
- Procedure
 - Log in to the ingest client host using secure shell
 - Type command to start clean-up script
 - Type appropriate responses to clean-up script prompts

Performing Hard Media Ingest



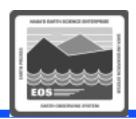
- ECS currently supports hard media ingest from D3 tape cartridges, although it may not be performed at all sites
- In the future ECS will support ingest from other media, such as 8mm tape cartridges
- DAAC Ingest/Distribution Technician uses the Media Ingest tool on the Ingest GUI
 - Delivery Record file required; one of two options
 - » Embedded in the hard media
 - » Made available electronically (e.g., on the network)
- In addition, the DAAC Ingest/Distribution Technician may need to use the Storage Config. screen on the Storage Management Control GUI to control media drives

Performing Hard Media Ingest (Cont.)



- Labeling Tape Cartridges with Bar Codes
 - Each tape containing data to be ingested must have a bar-code label
 - Labels are typically already on the tapes when received from the data provider
 - » However, they may affixed to the tape cartridges by the Ingest/Distribution Technician

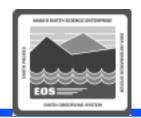
Performing Hard Media Ingest (Cont.)



- Procedure (Performing Media Ingest from D3 Tape)
 - Select the Ingest GUI Media Ingest tab
 - Identify the type of medium
 - Select the data provider
 - Enter the media volume ID
 - Identify the delivery record file location
 - Place the tape cartridge in the tape unit
 - Initiate and monitor the data transfer
 - Monitor request processing

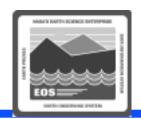
NOTE: During data transfer from tape, the Ingest GUI prevents any other function from being selected until the transfer has been completed

Media Ingest Tab



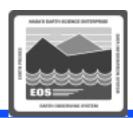
ECS Ingest	•
<u>F</u> ile	<u>H</u> elp
Ingest History Log Control Operator Tools Media Ingest	
Media Type I y	
Data Provider T	
Media Volume ID(Barcode)	
Data Delivery Record File Location	
◯ On Network ○ Embedded in Media	
Data Delivery Record File Name:	
OK Clear All	

Media Ingest Screen: D3 Tape



ECS Ingest
<u>F</u> ile <u>H</u> e
Ingest History Log Control Operator Tools Ingest
Media Type 03 Tape
Data Provider
Media Volume ID(Barcode)
Data Delivery Record File Location
○Embedded in Media Data Delivery Record File Name:
OK Clear All

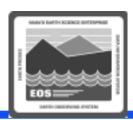
Document Scanning



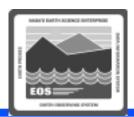
Procedure (Document Scanning)

- Start the scanning program
- Select the 'Read from Scanner' option
- Select the 'Save Image Defer OCR' option
- Load documents into the HP ScanJet feeder
- Start the scanning process (select 'Go')
- Save the document

Document Scanning (Cont.)

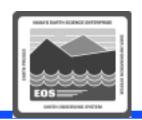


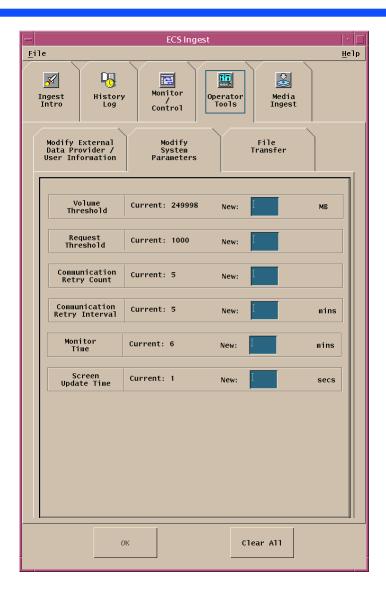
- Procedure (Gaining Access to Scanned Documents)
 - Start the scanning program
 - Open the scanned document
 - Review the document to verify that it has been properly scanned

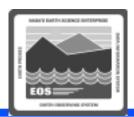


- Operator Tools Tab
 - Two GUI screens to view and set ingest thresholds
 - » Modify External Data Provider/User Information
 - » Modify System Parameters
 - One GUI screen for transferring files
 - » File Transfer

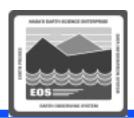
ECS Ingest GUI Operator Tools Tab







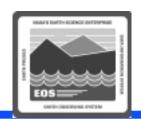
- Data provider data/thresholds
 - FTP user name/password
 - E-mail address
 - HTML password
 - Cell Directory Service (CDS) entry name
 - Server destination Universal Unique Identifier (UUID)
 - Maximum data volume
 - Maximum number of concurrent ingest requests
 - Priority for ingest processing
 - "Notify" parameters; for example,...
 - » ftp directory
 - » ftp username/password



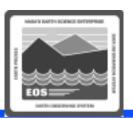
System thresholds

- Maximum data volume to be ingested concurrently
- Maximum number of concurrent ingest requests
- Communication retry count
- Communication retry interval
- Monitor time
- Screen update time

Modify Data Provider Parameters

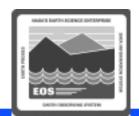


-	ECS Ingest	•		
<u>F</u> i1	e	<u>H</u> elp		
	ngest History / Operator Media Ingest			
	Modify External Modify File System Transfer User Information Parameters			
	Data Provider EDOS			
	FTP Username FTP Password OK			
	Email Address HTML Password			
	cnshared@t1ins02u.ecs.nasa. OK			
CDS Entry Name Server Destination UUID				
	ECCSL andsat7Gateway			
	Volume Threshold Current: 75000 New: MB			
	Request Threshold Current: 100 New:			
	Priority Current: VHIGH New:			
	■ Update Notify Parameters			
	OK Clear All			

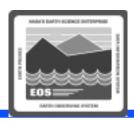


- Procedure (Modifying External Data Provider Information)
 - Select the Ingest GUI Operator Tools: Modify External Data Provider/User Information tab
 - Select the data provider whose information is to be changed
 - Modify the data provider information as necessary
 - Save the changes to data provider information

Notify Parameters Window



Notify Parameters				
Notify Type EDOS				
Notify FTP Node	Notify FTP Directory			
Notify FTP Username	Notify FTP Password			
y	<u> </u>			
ОК	Cancel			

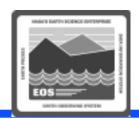


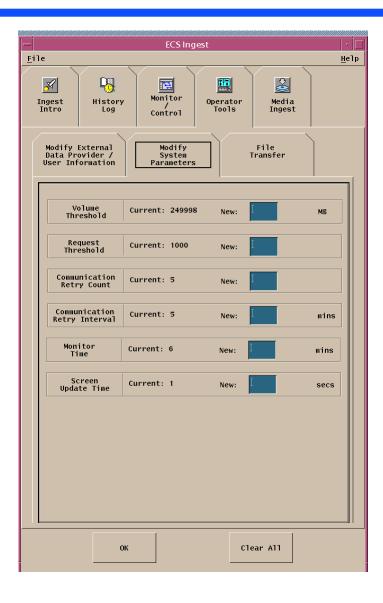
- Two system parameters affect communications between external data providers and ECS
 - Communication retry count
 - » The number of successive times the system tries to establish ingest communications with a data provider before registering a communications failure and moving on to the next ingest request
 - Communication retry interval
 - » The time between successive attempts to establish communication

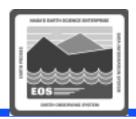


- Two system parameters may be used to set the behavior of the system according to operator preference
 - Monitor time
 - » The amount of time that information about a completed ingest transaction remains available on the Monitor/Control screen after its completion
 - Screen Update Time
 - » The amount of time between automatic data updates on the Monitor/Control screen

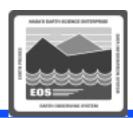
Modify System Parameters





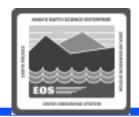


- Procedure (Modifying System Parameters on the Ingest GUI)
 - Select the Ingest GUI Operator Tools: Modify System Parameters tab
 - Modify Ingest operating parameters as necessary
 - Save the changes to Ingest operating parameters

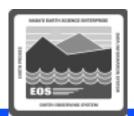


- File Transfer tab
 - allows the Ingest/Distribution Technician to transfer files
 - allows the Ingest/Distribution Technician to build System Monitoring and Coordination Center (SMC) History Files
 - » SMCHeaderFile
 - » SMCdataFile

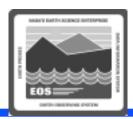
Transfer Files



ECS Ingest	
<u>F</u> ile	<u>H</u> elp
Ingest History / Control Tools Media Ingest	
Modify External Modify File Data Provider / System Transfer User Information Parameters	
Build SMC Generic History Files File Transfer Transfer Origir	
Filter /usr/ecs/TS2/CUSTOM/temp/INS/*	
Directories S/TS2/CUSTOM/temp/INS/. DataTypeLevelInfoFile10540 Data	
Selection	
/usr/ecs/TS2/CUSTOM/temp/INS/	
OK Filter	
Transfer Destination [/ecs/formal/INGEST/	
ок	



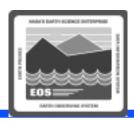
- Procedure (Transferring Files)
 - Select the Ingest GUI Operator Tools: File Transfer tab
 - Select either Build SMC History Files or Generic File Transfer as appropriate
 - Select the file to be transferred
 - Enter the destination of the file to be transferred
 - Initiate and monitor the file transfer



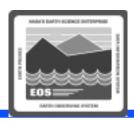
- System parameters may be subject to control by Configuration Management (CM)
 - When making or requesting a change to system parameters, the CM process at the particular site must be followed (if applicable)
- Two databases where Ingest parameters can be set:
 - Ingest database
 - Configuration Registry database



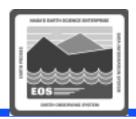
- Configuration Registry
 - Configuration Registry Server provides a single interface (via a Sybase server) for retrieving configuration attribute-value pairs for ECS servers from the Configuration Registry database
 - » When ECS servers are started they access the Configuration Registry database to obtain needed configuration parameters
 - Database Administrator has access to a Configuration Registry GUI for viewing and editing configuration data in the database
 - It is necessary to coordinate with the Database Administrator when changes to configuration parameters are needed
 - Changes to configuration-controlled parameters are subject to approval through the site CM process



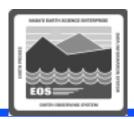
- Default and adjusted values assigned to system parameters vary from site to site
 - For guidance concerning the assignment of values to parameters included in the Configuration Registry refer to document 910-TDA-022, Custom Configuration Parameters
 - » Document is available at http://cmdm.east.hitc.com/baseline/ under "Technical Documents"



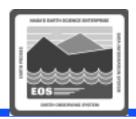
- Parameters whose values may be modified to enhance system functioning or performance
 - AppLogSize
 - » Maximum size of the application log (ALOG) file for a particular application
 - AppLogLevel
 - » Level of detail provided in the ALOG file for a particular application
 - DebugLevel
 - » Level of detail provided in the debug log file for a particular application



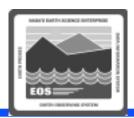
- Tuning Parameters (Cont.)
 - INGEST_CONNECTION_POOL_SIZE
 - » Number of database connections varies with the particular program connecting to the database
 - » Single-threaded programs (i.e., EcInAuto, EcInGUI, EcInPolling) need one database connection only
 - » The number of database connections required for EcInGran depends on the maximum number of granules that can be processed at a time (for a maximum of five granules, two database connections are probably enough)
 - » For the EclnReqMgr there should be at least two database connections
 - ListenThreads
 - » Number of listen threads assigned to a particular application



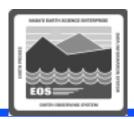
- Tuning Parameters (Cont.)
 - RETRY_TIME_INTERVAL
 - » Number of seconds before EcInAuto retries to send a request to the Request Manager
 - SAVEONEXIT
 - » Set to "true" for debug purposes only
 - » When "true," staging disks do not get cleaned up
 - » For Granule Server, when "true," the local preprocessing disk does not get cleaned up
 - SDSRV_RETRY_INTERVAL
 - » Amount of time (in seconds) related to retrying remote procedure calls (RPCs) to Science Data Server
 - SDSRV_RETRY_ATTEMPTS
 - » Number of tries related to retrying RPCs to Science Data Server



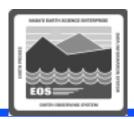
- Tuning Parameters (Cont.)
 - ADVERTISE_RETRY_WAIT_TIME
 - » Amount of time (in seconds) related to retrying RPCs to the advertising service
 - ADVERTISE_RETRIES
 - » Parameter (number of tries) related to retrying RPCs to the advertising service
 - ADVERTISING_SYBASE_LIMIT
 - » Number of ESDTs sent to Advertising in one request
 - » If set to zero, all ESDTs from the Ingest database are sent at once
 - » Needs to be changed only if Advertising comes up against a limitation by Sybase as to how many ESDTs it can handle in one request



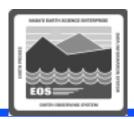
- Tuning Parameters (Cont.)
 - PollingTimerInterval
 - » Amount of time (in seconds) between polling instances
 - » Specified individually for each applicable data provider
 - » Value varies depending on the data provider
 - » Applies to both categories of polling (i.e., with delivery record and without delivery record)
 - CompareFileContentsFlag
 - » Value is either "yes" or "no" (Usually set to "no")
 - » Should be set to "yes" for any data provider that reuses the same file names for its PDRs (polling with delivery record) or for its data files (polling without delivery record) so that EcInPolling checks whether file contents have changed
 - » If set to "yes," EcInPolling processing takes longer



- Tuning Parameters (Cont.)
 - PollingDirectoryCount
 - » Number of directories to be polled by EcInPolling
 - » There must be a corresponding number of PollingDirectory, DataType, HostName, IngestFileType, and MaximumFileSize parameters
 - » Affects polling without delivery record only
 - PollingDirectory or PollingDirectoryX
 - » Path of the directory in which EclnPolling looks for new PDRs (polling with delivery record) or new data files (polling without delivery record)
 - » There can be multiple instances of the parameter for polling without delivery record
 - » For example, if the PollingDirectoryCount is "2," there should be a PollingDirectory1 and a PollingDirectory2



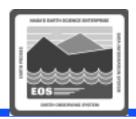
- Tuning Parameters (Cont.)
 - HostName or HostNameX
 - » Host (e.g., x0icg01) where the associated polling directory resides
 - DataTypeX
 - » Identifies the data type (e.g., AM1ATTF) associated with the corresponding polling directory
 - IngestFileTypeX
 - » Identifies the file type (e.g., SCIENCE or DATA) associated with the corresponding polling directory
 - MaximumFileSizeX
 - » Specifies the maximum file size in bytes allowed in the corresponding polling directory



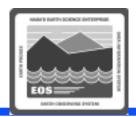
 When the value assigned to a parameter has been changed and saved in the Configuration Registry, the modified value does not take effect until the affected server has been restarted

Example

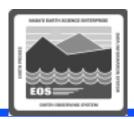
- Debug level for the Ingest Request Manager log has been changed from "2" to "3" in the Configuration Registry
- Modification does not affect the recording of data in the log until after a warm restart of the Ingest Request Manager (at which time the server would read the parameters in the Configuration Registry)



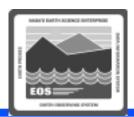
- When requesting a change to system parameters, the CM process at the particular site must be followed (if applicable)
- Configuring the Granule Server Listen Threads
 - TotalGranuleThreshold column in the InGranuleServerInfo database table multiplied by three
 - Default value for the TotalGranuleThreshold is currently 40 (not recommended that it be made greater because the Granule Server would grow too large)
 - Entries in the InGranuleServerInfo database table must be set manually via interactive structured query language (isql) commands



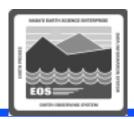
- Limits on the Number of Queued Requests and Ingest Volume
 - Maximum number of requests
 - » MaximumTotalRequests column in the InSystemParameters database table
 - » Use the Ingest GUI to modify
 - Maximum volume that can be processed by Ingest at one time
 - » MaximumTotalVolume column in the InSystemParameters database table
 - » Use the Ingest GUI to modify



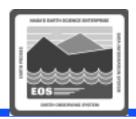
- Limits on the Number of Requests and Data Volume from a Data Provider
 - Maximum number of requests for a data provider
 - » MaximumRequests column in the InExternalDataProviderInfo database table
 - » Use the Ingest GUI to modify
 - Maximum data volume for a data provider
 - » VolumeThreshold column in the InExternalDataProviderInfo database table
 - » Use the Ingest GUI to modify



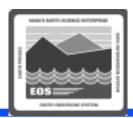
- Other Key Parameters for Ingest
 - MonitorTimeForCompletedRequest in the InSystemParameters database table
 - » Specifies the number of minutes after the request has been completed that a request remains in the database tables that get displayed on the Ingest Monitor/Control GUI window
 - » Use the Ingest GUI to modify
 - ScreenUpdateInterval parameter in the InSystemParameters table
 - » Specifies the number of seconds after which the GUI refreshes
 - » Use the Ingest GUI to modify



- Other Key Parameters for Ingest (Cont.)
 - CommunicationRetryCount in the InSystemParameters table
 - » Specifies a number of attempts to send a DDN to the Landsat7 Gateway
 - » Use the Ingest GUI to modify
 - CommunicationRetryInterval in the InSystemParameters table
 - » Number of seconds between attempts to retry sending a DDN to the Landsat7Gateway
 - » Use the Ingest GUI to modify



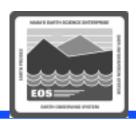
- Other Key Parameters for Ingest (Cont.)
 - Number of granule servers at a DAAC
 - » Multiple granule servers can be configured
 - » Each granule server needs a row in the InGranuleServerInfo and InValGranuleServerUR tables
 - » For a particular ESDT to be processed by a particular granule server, the GranuleServerURKey must be set to the appropriate granule server in the InDataTypeTemplate table for the data type
 - » Entries in the database tables must be set manually via isql commands



Procedure

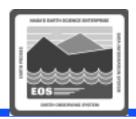
- Access the command shell
- Log in to the Ingest Server using secure shell
- Log in to the appropriate Ingest database using isql commands
- Check the current contents of the relevant column/table
- Update the relevant column/table with the new value(s)
- Check the current contents of the relevant column/table
- Exit from isql

Troubleshooting Ingest Problems

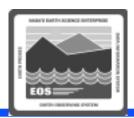


• Troubleshooting:

process of identifying the source of problems on the basis of observed trouble symptoms

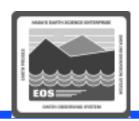


- Problems with ingest can usually be traced to...
 - some part of the Ingest Subsystem
 - problems in other ECS subsystems, including (but not necessarily limited to):
 - » Data Server Subsystem (DSS)
 - » Interoperability Subsystem (IOS)
 - » Communications Subsystem (CSS)
 - » System Management Subsystem (MSS)
 - mistakes in the delivery records furnished by external data providers
 - errors in transmission of the data from external data providers



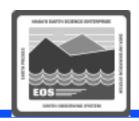
Troubleshooting table

- describes actions to be taken in response to some common ingest problems
- if the problem cannot be identified and fixed without help within a reasonable period of time, call the help desk and submit a trouble ticket in accordance with site Problem Management policy



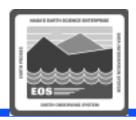
Symptom	Response
Unable to log in to any host (e.g., Operations Workstation, g0acs02).	Check with the Operations Controller/System Administrator to ensure that the host is "up."
GUI not displayed when the start-up script has been properly invoked.	Ensure that the DISPLAY variable was set properly. [For detailed instructions refer to the procedure for Launching the Ingest GUI (previous section of this lesson).]
Error message associated with the Ingest GUI.	Refer to Table 3, Ingest Operator GUI User Messages (adapted from the corresponding table in 609-CD-600-001, <i>Release 6A Operations Tools Manual for the ECS Project</i>).
Message received indicating a data ingest failure.	 Ensure (e.g., using ECS Assistant) that the necessary hosts and servers (listed in Table 5) are "up." If hosts/servers have gone down, notify the Operations Controller/System Administrator to have servers brought back up. If hosts/servers are all "up," refer to the procedure for Recovering from a Data Ingest Failure (subsequent section of this lesson).
Other problems.	Check the log files (e.g., EcInReqMgr.ALOG, EcInAuto.ALOG, EcInPolling.ALOG, EcInGran.ALOG, EcInGUI.ALOG) in the /usr/ecs/MODE/CUSTOM/logs directory of the relevant host(s) for error messages. [For detailed instructions refer to the procedure for Checking Log Files (subsequent section of this lesson).]

Hosts, Servers, Clients and Other Software Relevant to Ingest

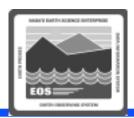


HOST	SERVER/CLIENT/OTHER SOFTWARE
Ingest Server (e.g., x0icg01)	Registry Server (EcCsRegistry)
	FTP Server (EcDsStFtpServer)
	Staging Disk Server (EcDsStStagingDiskServer)
	Automated Network Ingest Interface (EcInAuto)
	Ingest Granule Server (EcInGran)
	Automated Polling Ingest Client Interface (EcInPolling)
	Ingest Request Manager (EcInReqMgr)
Distribution Server (e.g., x0dis02)	Distribution Server (EcDsDistributionServer)
	D3 Server (EcDsStD3Server)
	Staging Disk Server (EcDsStStagingDiskServer)
	Storage Management Control GUI (EcDsStmgtGui)
	Storage Management Request Manager
	(EcDsStRequestManagerServer)
Working Storage (e.g., x0wkg01)	HDF EOS Server (EcDsHdfEosServer)
	Archive Server (EcDsStArchiveServer)
	Cache Manager Server (EcDsStCacheManagerServer)
	FTP Server (EcDsStFtpServer)
	Staging Disk Server (EcDsStStagingDiskServer)
Operations Workstation (e.g., x0acs01)	Ingest GUI (EcInGUI)
SDSRV Server (e.g., x0acs03)	Science Data Server (EcDsScienceDataServer)

Hosts, Servers, Clients and Other Software Relevant to Ingest (Cont.)



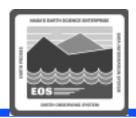
HOST	SERVER/CLIENT/OTHER SOFTWARE
Access/Process Coordinators (APC)	Archive Server (EcDsStArchiveServer)
Server (e.g., x0acg01)	Cache Manager Server (EcDsStCacheManagerServer)
	FTP Server (EcDsStFtpServer)
	Staging Disk Server (EcDsStStagingDiskServer)
	Pull Monitor Server (EcDsStPullMonitorServer)
	Automated Polling Ingest Client Interface (EcInPolling)
FSMS Server (e.g., x0drg01)	Archive Server (EcDsStArchiveServer)
	Cache Manager Server (EcDsStCacheManagerServer)
	FTP Server (EcDsStFtpServer)
	Staging Disk Server (EcDsStStagingDiskServer)
Interface Server 01 (e.g., x0ins02)	Advertising Server (EcloAdServer)
	Data Dictionary (EcDmDictServer)
Interface Server 02 (e.g., x0ins01)	Ingest E-Mail Parser (EcInEmailGWServer)
	Subscription Server (EcSbSubServer)
	Event Server (EcSbEventServer)



- Recovery from a data ingest failure
 - Operator intervention required when there is an ingest fault, or error (e.g., invalid DAN/PDR)
 - System responses to Ingest fault (error)
 - » processing of the ingest request stops
 - » message is sent to the Ingest/Distribution Technician and the data provider with a brief description of the problem
 - Ingest/Distribution Technician may use several sources for troubleshooting information
 - » Ingest GUI Monitor/Control screen
 - » Ingest History Log
 - » Ingest log files

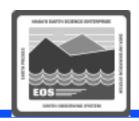


- Procedure (Troubleshooting a Data Ingest Failure)
 - Identify the faulty ingest request
 - Review the information concerning the faulty ingest request
 - » Ingest notification files
 - » Log files
 - Perform the appropriate recovery procedure depending on the nature of the problem

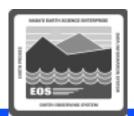


Checking Ingest Notification Files

- Automated Network Ingest
 - » DDN (short or long): transfer errors, DAN information discrepancies, and other file problems (if any)
 - » DAA (short or long): problems with DANs
 - Polling with Delivery Record
- Polling with Delivery Record
 - » PAN (short or long): transfer errors, delivery record information discrepancies, and other file problems (if any)
 - » PDRD (short or long): invalid delivery record

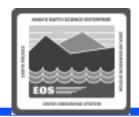


- Checking Ingest Notification Files: Procedure
 - Access a terminal window logged in to the appropriate host
 - Change directory to the directory containing the ingest log files
 - » e.g., /usr/ecs/OPS/CUSTOM/icl//x0icg01/data/remote/EDOS /Response
 - Review notification file to identify problems
 - » DDN
 - » DAA
 - » PAN
 - » PDRD

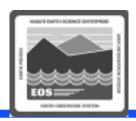


Checking Log Files

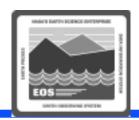
- Log files can provide indications of the following types of problems:
 - » DCE problems
 - » Database problems
 - » Lack of disk space



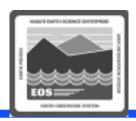
- Procedure (Checking Log Files)
 - Access a terminal window logged in to the appropriate host
 - Change directory to the directory containing the ingest log files
 - » /usr/ecs/MODE/CUSTOM/logs
 - Review log file to identify problems
 - » EcInGUI.ALOG
 - » EcInReqMgr.ALOG
 - » EcInAuto.ALOG
 - » EcInPolling.ALOG
 - » EcInGran.ALOG
 - » EcInEmailGWServer.ALOG
 - Respond to problems



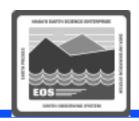
- Procedure (Recovering from a Faulty DAN)
 - Access a terminal window logged in to the appropriate host
 - Change directory to the directory containing the DAN files
 - Review the DAN file to identify problems
 - Respond to problems (as applicable)
 - » Make a request to the data provider to retransmit the DAN
 - » Submit a trouble ticket
 - » Go to the procedure for Recovering from File Transfer (ftp) Error
 - If the data ingest request is to be re-initiated, monitor the subsequent ingest



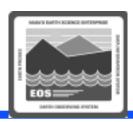
- Procedure (Recovering from a Faulty PDR)
 - Contact the data provider
 - » Report the ingest failure
 - » Discuss what has been discovered from reviewing the failure event data
 - » Determine whether the data provider will re-initiate the data ingest request with a new DAN/PDR
 - If there is an ECS Ingest process abort during file transfer, go to the procedure for Recovering from File Transfer (ftp) Error
 - If EDOS is the data provider and the File Transfer Disposition in the PAN indicates that an error occurred, send a Problem Report to EDOS to report the problem
 - If the data ingest request is to be re-initiated, monitor the subsequent ingest



- Regenerating Failed PDRs
 - The Regenerate Failed PDR Tool can be used whenever a PDR fails and results in a "long PAN" message file
 - » Long PAN means that the request had more than one granule and not all granules had the same error
 - Purpose of the tool is to provide a means to generate a PDR for each failed granule in a PDR and copy the generated PDRs to an Ingest polling directory, where Ingest polling would detected them and initiate ingest of the relevant granule(s)
 - » Operations staff would not have to either manually edit the original PDR file or submit all failed granules to Ingest polling (which would create duplicate granules in the archive)



- Regenerating Failed PDRs: Procedure
 - Access a terminal window logged in to the appropriate host
 - Change directory to the directory containing the Ingest utility scripts
 - Start the EcInRegenFailedPDRStart script
 - Respond to prompts
 - Perform related procedures as necessary
 - » Remove (Delete) Generated PDRs
 - » Check/Edit a PDR
 - » Check PAN Contents
 - » Check for Memory Problems
 - » Check the Polling Directory
 - » Check PAN Accessibility



- Other ingest failures for operator intervention
 - Volume threshold exceeded
 - Maximum number of concurrent requests exceeded
 - Insufficient disk space
 - Expiration date/time period exceeded
 - ftp error
 - Processing error
 - » Missing Required Metadata
 - » Unknown Data Type
 - » Template Out of Synchronization (Sync)
 - » Unavailable File Type
 - » Metadata Validation Error
 - » Missing Optional Data Files
 - D3 ingest failure